

Introduction

LEARNING OBJECTIVES

After reading this chapter, you will understand

- what a financial asset is and the principal economic functions of financial assets
- the distinction between financial assets and tangible assets
- what a financial market is and the principal economic functions it performs
- the distinction between debt instruments and equity instruments
- the various ways to classify financial markets
- the differences between the primary and secondary markets
- the participants in financial markets
- reasons for the globalization of financial markets
- the distinction between an internal market and an external market
- the distinction between a domestic market, a foreign market, and the Euromarket
- the reasons why entities use foreign markets and Euromarkets
- what a derivative instrument is and the two basic types of derivative instruments
- the role of derivative instruments
- the typical justification for governmental regulation of markets
- the different ways that governments regulate markets, including disclosure regulation, financial activity regulation, financial institution regulation, regulation of foreign firm participation, and regulation of the monetary system
- the U.S. Department of the Treasury's proposed plan for regulatory reform
- the primary reasons for financial innovation

In a market economy, the allocation of economic resources is the outcome of many private decisions. Prices are the signals operating in a market economy that direct economic resources to their best use. The types of markets in an economy can be divided into (1) the market for products (manufactured goods and services), called the *product market*, and (2) the market for the factors of production (labor and capital), called the *factor market*.

Our purpose in this book is to focus on one part of the factor market, the market for financial assets, or, more simply, the **financial market**. In this chapter, we will look at the role of financial markets, the “things” that are traded (i.e., bought and sold) in financial markets, the reasons for the integration of world financial markets, and the government’s role in the regulation of financial markets. At the end of this chapter, we provide a brief overview of some of the reasons for financial innovation.

FINANCIAL ASSETS

We begin with a few basic definitions. An asset, broadly speaking, is any possession that has value in an exchange. Assets can be classified as *tangible* or *intangible*. A *tangible* asset is one whose value depends on particular physical properties—examples are buildings, land, or machinery. Intangible assets, by contrast, represent legal claims to some future benefit. Their value bears no relation to the form, physical or otherwise, in which these claims are recorded.

Financial assets are intangible assets. For financial assets, the typical benefit or value is a *claim* to future cash. This book deals with the various types of financial assets, the markets where they are traded, and the principles for valuing them. Throughout this book, we use the terms **financial asset**, *financial instrument*, and *security* interchangeably.

The entity that has agreed to make future cash payments is called the *issuer* of the financial asset; the owner of the financial asset is referred to as the *investor*. Here are just seven examples of financial assets:

- a loan by Bank of America (investor) to an individual (issuer/borrower) to purchase a car
- a bond issued by the U.S. Department of the Treasury
- a bond issued by Verizon Communications
- a bond issued by the City of New York
- a bond issued by the government of Japan
- a share of common stock issued by IBM
- a share of common stock issued by Honda Motor Company, a Japanese company

In the case of the car loan, the terms of the loan establish that the borrower must make specified payments to the commercial bank over time. The payments include repayment of the amount borrowed plus interest. The cash flow for this asset is made up of the specified payments that the borrower must make.

In the case of a U.S. Treasury bond, the U.S. government (the issuer) agrees to pay the holder or the investor the bond interest payments every six months until the bond matures, then at the maturity date repay the amount borrowed. The same is true for the bonds issued by Verizon Communications, the City of New York, and the government of Japan. In the case of Verizon Communications, the issuer is a corporation, not a government entity. In the case of the City of New York, the issuer is a municipal government. The issuer of the Japanese government bond is a central government entity.

The common stock of IBM entitles the investor to receive dividends distributed by the company. The investor in this case also has a claim to a pro rata share of the net asset value of the company in case of liquidation of the company. The same is true of the common stock of Honda Motor Company.

Debt versus Equity Instruments

The claim that the holder of a financial asset has may be either a fixed dollar amount or a varying, or residual, amount. In the former case, the financial asset is referred to as a **debt instrument**. The car loan, the U.S. Treasury bond, the Verizon Communications bond, the City of New York bond, and the Japanese government bond cited above are examples of debt instruments requiring fixed dollar payments.

An **equity instrument** (also called a residual claim) obligates the issuer of the financial asset to pay the holder an amount based on earnings, if any, after holders of debt instruments have been paid. Common stock is an example of an equity instrument. A partnership share in a business is another example.

Some securities fall into both categories. Preferred stock, for example, is an equity instrument that entitles the investor to receive a fixed dollar amount. This payment is contingent, however, and due only after payments to debt instrument holders are made. Another “combination” instrument is a convertible bond, which allows the investor to convert debt into equity under certain circumstances. Both debt and preferred stock that pay fixed dollar amounts are called **fixed-income instruments**.

The Price of a Financial Asset and Risk

A basic economic principle is that the price of any financial asset is equal to the present value of its expected cash flow, even if the cash flow is not known with certainty. By cash flow, we mean the stream of cash payments over time. For example, if a U.S. government bond promises to pay \$30 every six months for the next 30 years and \$1,000 at the end of 30 years, then this is its cash flow. In the case of the car loan by Bank of America, if the borrower is obligated to pay \$500 every month for three years, then this is the cash flow of the loan. We elaborate on this principle throughout this book as we discuss several theories for the pricing of financial assets.

Directly related to the notion of price is the expected return on a financial asset. Given the expected cash flow of a financial asset and its price, we can determine its expected rate of return. For example, if the price of a financial asset is \$100, and its only cash flow is \$105 one year from now, its expected return would be 5%.

The type of financial asset, whether debt instrument or equity instrument, and the characteristics of the issuer determine the degree of certainty of the expected cash flow. For example, assuming that the U.S. government never defaults on the debt instruments it issues, the cash flow of U.S. Treasury securities is known with certainty. What is uncertain, however, is the purchasing power of the cash flow received.

In the case of the Bank of America car loan, the ability of the borrower to repay presents some uncertainty about the cash flow. But, if the borrower does not default on the loan obligation, the investor (Bank of America) knows what the cash flow will be. The same is true for the bonds of Verizon Communications and the City of New York.

In the case of the Japanese government bond, the cash flow is known if the Japanese government does not default. The cash flow, however, may be denominated not in U.S.

dollars but in the Japanese currency, the yen. Thus, while the cash flow is known in terms of the number of yen that will be received, from the perspective of a U.S. investor, the number of U.S. dollars is unknown. The number of U.S. dollars will depend on the exchange rate between the Japanese yen and the U.S. dollar at the time the cash flow is received.

The holder of IBM common stock is uncertain as to both the amount and the timing of dividend payments. Dividend payments will be related to company profits. The same is true for the cash flow of the common stock of Honda Motor Company. In addition, because Honda will make dividend payments in Japanese yen, there is uncertainty about the cash flow in terms of U.S. dollars.

Although there are various types of risks that we will discuss in this chapter and those to follow, we can see three of them in our examples. The first is the risk attached to the potential purchasing power of the expected cash flow. This is called **purchasing power risk**, or **inflation risk**. The second is the risk that the issuer or borrower will default on the obligation. This is called **credit risk**, or **default risk**. Finally, for financial assets whose cash flow is not denominated in U.S. dollars, there is the risk that the exchange rate will change adversely, resulting in less U.S. dollars. This risk is referred to as **foreign-exchange risk**.

Financial Assets versus Tangible Assets

A tangible asset such as plant or equipment purchased by a business entity shares at least one characteristic with a financial asset: Both are expected to generate future cash flow for their owner. For example, suppose a U.S. airline purchases a fleet of aircraft for \$250 million. With its purchase of the aircraft, the airline expects to realize cash flow from passenger travel.

Financial assets and tangible assets are linked. Ownership of tangible assets is financed by the issuance of some type of financial asset—either debt instruments or equity instruments. For example, in the case of the airline, suppose that a debt instrument is issued to raise the \$250 million to purchase the fleet of aircraft. The cash flow from the passenger travel will be used to service the payments on the debt instrument. Ultimately, therefore, the cash flow for a financial asset is generated by some tangible asset.

The Role of Financial Assets

Financial assets have two principal economic functions. The first is to transfer funds from those who have surplus funds to invest to those who need funds to invest in tangible assets. The second economic function is to transfer funds in such a way as to redistribute the unavoidable risk associated with the cash flow generated by tangible assets among those seeking and those providing the funds. However, as we will see, the claims held by the final wealth holders are generally different from the liabilities issued by the final demanders of funds because of the activity of financial intermediaries that seek to transform the final liabilities into the financial assets that the public prefers.

We can illustrate these two economic functions with three examples:

1. Joe Grasso has obtained a license to manufacture Rugrat wristwatches. Joe estimates that he will need \$1 million to purchase plant and equipment to manufacture the watches. Unfortunately, he has only \$200,000 to invest, and that is his life savings, which he does not want to invest, even though he has confidence that there will be a receptive market for the watches.

2. Susan Carlson has recently inherited \$730,000. She plans to spend \$30,000 on some jewelry, furniture, and a few cruises, and to invest the balance, \$700,000.
3. Larry Stein, an up-and-coming attorney with a major New York law firm, has received a bonus check that after taxes has netted him \$250,000. He plans to spend \$50,000 on a BMW and invest the balance, \$200,000.

Suppose that, quite by accident, Joe, Susan, and Larry meet at a social function. Sometime during their conversation, they discuss their financial plans. By the end of the evening, they agree to a deal. Joe agrees to invest \$100,000 of his savings in the business and sell a 50% interest to Susan for \$700,000. Larry agrees to lend Joe \$200,000 for four years at an interest rate of 18% per year. Joe will be responsible for operating the business without the assistance of Susan or Larry. Joe now has his \$1 million to manufacture the watches.

Two financial claims came out of this meeting. The first is an equity instrument issued by Joe and purchased by Susan for \$700,000. The other is a debt instrument issued by Joe and purchased by Larry for \$200,000. Thus, the two financial assets allowed funds to be transferred from Susan and Larry, who had surplus funds to invest, to Joe, who needed funds to invest in tangible assets in order to manufacture the watches. This transfer of funds is the first economic function of financial assets.

The fact that Joe is not willing to invest his life savings of \$200,000 means that he wanted to transfer part of that risk. He does so by selling Susan a financial asset that gives her a financial claim equal to one-half the cash flow from the business. He further secures an additional amount of capital from Larry, who is not willing to share in the risk of the business (except for credit risk), in the form of an obligation requiring payment of a fixed cash flow, regardless of the outcome of the venture. This shifting of risk is the second economic function of financial assets.

Key Points That You Should Understand Before Proceeding

1. The difference between tangible assets and financial assets and how they are related.
2. The difference between debt instruments and equity instruments.
3. What is meant by the cash flow of a financial asset.
4. Three types of risk associated with investing in financial assets: purchasing power or inflation risk, default or credit risk, and exchange-rate risk.
5. The two principal economic functions of financial assets.

FINANCIAL MARKETS

A financial market is a market where financial assets are exchanged (i.e., traded). Although the existence of a financial market is not a necessary condition for the creation and exchange of a financial asset, in most economies financial assets are created and subsequently traded in some type of financial market. The market in which a financial asset trades for immediate delivery is called the spot market or cash market.

Role of Financial Markets

We previously explained the two primary economic functions of financial assets. Financial markets provide three additional economic functions.

First, the interactions of buyers and sellers in a financial market determine the price of the traded asset. Or, equivalently, they determine the required return on a financial asset.

As the inducement for firms to acquire funds depends on the required return that investors demand, it is this feature of financial markets that signals how the funds in the economy should be allocated among financial assets. This is called the price discovery process.

Second, financial markets provide a mechanism for an investor to sell a financial asset. Because of this feature, it is said that a financial market offers *liquidity*, an attractive feature when circumstances either force or motivate an investor to sell. If there were not liquidity, the owner would be forced to hold a debt instrument until it matures and an equity instrument until the company is either voluntarily or involuntarily liquidated. While all financial markets provide some form of liquidity, the degree of liquidity is one of the factors that characterize different markets.

The third economic function of a financial market is that it reduces the cost of transacting. There are two costs associated with transacting: search costs and information costs.

Search costs represent explicit costs, such as the money spent to advertise one's intention to sell or purchase a financial asset, and implicit costs, such as the value of time spent in locating a counterparty. The presence of some form of organized financial market reduces search costs. Information costs are costs associated with assessing the investment merits of a financial asset, that is, the amount and the likelihood of the cash flow expected to be generated. In an efficient market, prices reflect the aggregate information collected by all market participants.

Classification of Financial Markets

There are many ways to classify financial markets. One way is by the type of financial claim, such as debt markets and equity markets. Another is by the maturity of the claim. For example, there is a financial market for short-term debt instruments, called the *money market*, and one for longer-maturity financial assets, called the *capital market*.

Financial markets can be categorized as those dealing with financial claims that are newly issued, called the *primary market*, and those for exchanging financial claims previously issued, called the *secondary market* or the market for seasoned instruments.

Markets are classified as either *cash* or *derivative instruments* markets. (The latter is described later in this chapter.) A market can be classified by its organizational structure: It may be an *auction market*, an *over-the-counter market*, or an *intermediated market*.

All these classifications are summarized in Table 1-1.

Market Participants

Participants in the global financial markets that issue and purchase financial claims include households, business entities (corporations and partnerships), national governments, national government agencies, state and local governments, and supranationals (such as the World Bank, the European Investment Bank, and the Asian Development Bank).

Business entities include nonfinancial and financial enterprises. Nonfinancial enterprises manufacture products—for example, cars, steel, and computers—and/or provide nonfinancial services—including transportation, utilities, and computer programming. The roles in financial markets played by financial enterprises and a special type of financial enterprise called a financial intermediary are described in Chapter 2.

Finally, while we have focused on market participants that create and/or exchange financial assets, a broader definition of market participants would include regulators of financial markets. We will discuss regulation further later in this chapter.

Table 1-1 Summary of Classification of Financial Markets**CLASSIFICATION BY NATURE OF CLAIM:**

Debt market

Equity market

CLASSIFICATION BY MATURITY OF CLAIM:

Money market

Capital market

CLASSIFICATION BY SEASONING OF CLAIM:

Primary market

Secondary market

CLASSIFICATION BY IMMEDIATE DELIVERY OR FUTURE DELIVERY:

Cash or spot market

Derivative market

CLASSIFICATION BY ORGANIZATIONAL STRUCTURE:

Auction market

Over-the-counter market

Intermediated market

Key Points That You Should Understand Before Proceeding

1. The three economic functions of financial markets are to improve the price discovery process, enhance liquidity, and reduce the cost of transacting.
2. There are various ways that financial markets can be classified.
3. The market participants include households, business entities, national governments, national government agencies, state and local governments, supranationals, and regulators.

GLOBALIZATION OF FINANCIAL MARKETS

Because of the globalization of financial markets throughout the world, entities in any country seeking to raise funds need not be limited to their domestic financial market. Nor are investors in a country limited to the financial assets issued in their domestic market. Globalization means the integration of financial markets throughout the world into an international financial market.

The factors that have led to the integration of financial markets are (1) deregulation or liberalization of markets and the activities of market participants in key financial centers of the world; (2) technological advances for monitoring world markets, executing orders, and analyzing financial opportunities; and (3) increased institutionalization of financial markets.

Global competition has forced governments to deregulate (or liberalize) various aspects of their financial markets so that their financial enterprises can compete effectively around the world.

Technological advances have increased the integration of and efficiency of the global financial market. Advances in telecommunication systems link market participants throughout the world, with the result that orders can be executed within seconds. Advances in

computer technology, coupled with advanced telecommunication systems, allow the transmission of real-time information on security prices and other key information to many participants in many places. Therefore, many investors can monitor global markets and simultaneously assess how this information will impact the risk/return profile of their portfolios. Significantly improved computing power allows the instant manipulation of real-time market information so that arbitrage opportunities can be identified. Once these opportunities are identified, telecommunication systems permit the rapid execution of orders to capture them.

The U.S. financial markets have shifted from domination by retail investors to domination by financial institutions. By *retail investors* we mean individuals. For example, when you or I buy a share of common stock, we are referred to as retail investors. Examples of financial institutions are pension funds, insurance companies, mutual funds, commercial banks, and savings and loan associations. We describe these financial institutions in Part III of this book. Throughout this book we will refer to these financial institutions as *institutional investors*.

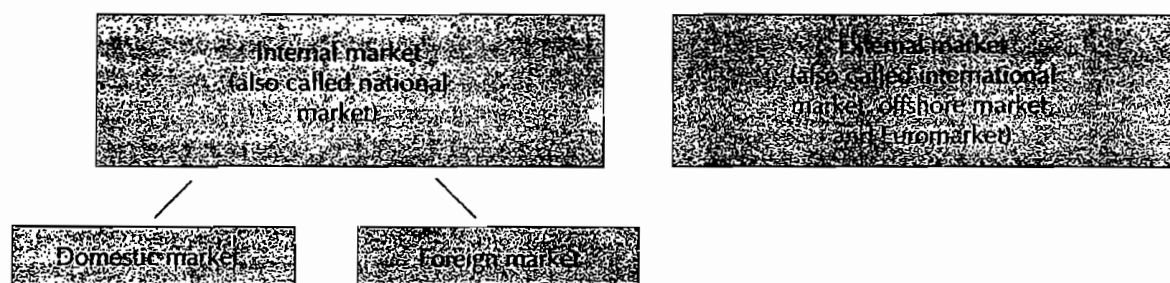
The shifting of the financial markets from dominance by retail investors to institutional investors is referred to as the *institutionalization* of financial markets. The same thing is occurring in other industrialized countries. Unlike retail investors, institutional investors have been more willing to transfer funds across national borders to improve portfolio diversification and/or exploit perceived mispricing of financial assets in foreign countries. The potential portfolio diversification benefits associated with global investing have been documented in numerous studies, which have heightened the awareness of investors about the virtues of global investing.

Classification of Global Financial Markets

Although there is no uniform system for classifying the global financial markets, an appropriate schematic presentation appears in Figure 1-1. From the perspective of a given country, financial markets can be classified as either internal or external. The **internal market** is also called the **national market**. It is composed of two parts: the **domestic market** and the **foreign market**. The domestic market is where issuers domiciled in a country issue securities and where those securities are subsequently traded.

The foreign market in any country is where the securities of issuers not domiciled in the country are sold and traded. The rules governing the issuance of foreign securities are those imposed by regulatory authorities where the security is issued. For example, securities issued

Figure 1-1 Classification of Global Financial Markets



by non-U.S. corporations in the United States must comply with the regulations set forth in U.S. securities law. A non-Japanese corporation that seeks to offer securities in Japan must comply with Japanese securities law and regulations imposed by the Japanese Ministry of Finance. Nicknames have developed to describe the various foreign markets. For example, the foreign market in the United States is called the *Yankee market*. The foreign market in Japan is nicknamed the *Samurai market*, in the United Kingdom the *Bulldog market*, in the Netherlands the *Rembrandt market*, and in Spain the *Matador market*.

The external market, also called the international market, allows trading of securities with two distinguishing features: (1) at issuance securities are offered simultaneously to investors in a number of countries, and (2) they are issued outside the jurisdiction of any single country. The external market is commonly referred to as the offshore market, or, more popularly, the **Euromarket**.¹

Motivation for Using Foreign Markets and Euromarkets

There are several reasons why a corporation may seek to raise funds outside its domestic market. First, in some countries, large corporations seeking to raise a substantial amount of funds may have no choice but to obtain financing in either the foreign market sector of another country or the Euromarket. This is because the fund-seeking corporation's domestic market is not fully developed and cannot satisfy its demand for funds on globally competitive terms. Governments of developing countries have used these markets in seeking funds for government-owned corporations that they are privatizing.

The second reason is that there may be opportunities for obtaining a lower cost of funding than is available in the domestic market, although with the integration of capital markets throughout the world, such opportunities have diminished. Nevertheless, there are still some imperfections in capital markets throughout the world that may permit a reduced cost of funds. The causes of these imperfections are discussed throughout the book. A final reason for using foreign or Euromarkets is a desire by issuers to diversify their source of funding so as to reduce reliance on domestic investors.

Key Points That You Should Understand Before Proceeding

1. The three major factors that have integrated financial markets throughout the world.
2. What is meant by the institutionalization of financial markets.
3. What is meant by an internal market (or national market), domestic market, foreign market, and external market (or international market, offshore market, or Euromarket).
4. The motivations for U.S. corporations to raise money outside the United States.

DERIVATIVE MARKETS

So far we have focused on the cash market for financial assets. With some contracts, the contract holder has either the obligation or the choice to buy or sell a financial asset at some future time. The price of any such contract derives its value from the value of the

¹ The classification we use is by no means universally accepted. Some market observers and compilers of statistical data on market activity refer to the external market as consisting of the foreign market and the Euromarket.

underlying financial asset, financial index, or interest rate. Consequently, these contracts are called derivative instruments.

Types of Derivative Instruments

The two basic types of derivative instruments are *futures/forward contracts* and *options contracts*. A futures or forward contract is an agreement whereby two parties agree to transact with respect to some financial asset at a predetermined price at a specified future date. One party agrees to buy the financial asset; the other agrees to sell the financial asset. Both parties are obligated to perform, and neither party charges a fee. The distinction between a futures and forward contract is explained in Chapter 26.

An options contract gives the owner of the contract the right, but not the obligation, to buy (or sell) a financial asset at a specified price from (or to) another party. The buyer of the contract must pay the seller a fee, which is called the option price. When the option grants the owner of the option the right to buy a financial asset from the other party, the option is called a **call option**. If, instead, the option grants the owner of the option the right to sell a financial asset to the other party, the option is called a **put option**. Options are more fully explained in Chapter 27.

Derivative instruments are not limited to financial assets. There are derivative instruments involving commodities and precious metals. Our focus in this book, however, is on derivative instruments where the underlying asset is a financial asset, or some financial benchmark such as a stock index or an interest rate, a credit spread, or foreign exchange. Moreover, there are other types of derivative instruments that are basically “packages” of either forward contracts or option contracts. These include swaps, caps, and floors, all of which are discussed in Chapter 30.

The Role of Derivative Instruments

Derivative contracts provide issuers and investors an inexpensive way of controlling some major risks. While we will describe these risks in later chapters of this book, here are three examples that clearly illustrate the need for derivative contracts:

1. Suppose that Verizon Communications plans to obtain a bank loan for \$100 million two months from now. The key risk here is that two months from now the interest rate will be higher than it is today. If the interest rate is only one percentage point higher, Verizon Communications would have to pay \$1 million more in annual interest. Clearly, then, issuers and borrowers want a way to protect against a rise in interest rates.
2. IBM pension fund owns a portfolio consisting of the common stock of a large number of companies. (We describe the role of pension funds in Chapter 8, but for now the only thing that is important to understand is that the pension fund must make periodic payments to the beneficiaries of the plan.) Suppose the pension fund knows that two months from now it must sell stock in its portfolio to pay beneficiaries \$20 million. The risk that IBM pension fund faces is that two months from now when the stocks are sold, the price of most or all stocks may be lower than they are today. If stock prices do decline, the pension fund will have to sell off more shares to realize \$20 million. Thus, investors, such as the IBM pension fund, face the risk of declining stock prices and may want to protect against this risk.
3. Suppose Sears, Roebuck plans to issue a bond in Switzerland and the periodic payments that the company must make to the bondholders are denominated in the Swiss currency, the franc. The amount of U.S. dollars that Sears must pay to receive the

amount of Swiss francs it has contracted to pay will depend on the exchange rate at the time the payment must be made. For example, suppose that at the time Sears plans to issue the bonds, the exchange rate is such that 1 U.S. dollar is equal to 1.5 Swiss francs. So, for each 7.5 million Swiss francs that Sears must pay to the bondholders, it must pay U.S. \$5 million. If at any time that a payment must be made in Swiss francs, the value of the U.S. dollar declines relative to the Swiss franc, Sears will have to pay more U.S. dollars to satisfy its contractual obligation. For example, if 1 U.S. dollar at the time of a payment changes to 1.25 Swiss francs, Sears would have to pay \$6 million to make a payment of 7.5 million Swiss francs. This is U.S. \$1 million more than when it issued the bonds. Issuers and borrowers who raise funds in a currency that is not their local currency face this risk.

The derivative instruments that we describe in Part IX of this book can be used by the two borrowers (Verizon Communications and Sears, Roebuck) and the one investor (IBM pension fund) in these examples to eliminate or to reduce the kinds of risks that they face.

As we will see in later chapters, derivative markets may have at least three advantages over the corresponding cash (spot) market for the same financial asset. First, depending on the derivative instrument, it may cost less to execute a transaction in the derivatives market in order to adjust the risk exposure of an investor's portfolio to new economic information than it would cost to make that adjustment in the cash market. Second, transactions typically can be accomplished faster in the derivatives market. Third, some derivative markets can absorb a greater dollar transaction without an adverse effect on the price of the derivative instrument; that is, the derivative market may be more liquid than the cash market.

The key point here is that derivative instruments play a critical role in global financial markets. A May 1994 report published by the U.S. General Accounting Office (GAO) titled *Financial Derivatives: Actions Needed to Protect the Financial System* recognized the importance of derivatives for market participants. Page 6 of the report states:

Derivatives serve an important function of the global financial marketplace, providing end-users with opportunities to better manage financial risks associated with their business transactions. The rapid growth and increasing complexity of derivatives reflect both the increased demand from end-users for better ways to manage their financial risks and the innovative capacity of the financial services industry to respond to market demands.

Unfortunately, derivative markets are too often viewed by the general public—and sometimes regulators and legislative bodies—as vehicles for pure speculation (that is, legalized gambling). Without derivative instruments and the markets in which they trade, the financial systems throughout the world would not be as integrated as they are today.

Key Points That You Should Understand Before Proceeding

1. The two basic types of derivative instruments: futures/forward contracts and options.
2. The principal economic role of derivative instruments.
3. The potential advantages of using derivative instruments rather than cash market instruments.

THE ROLE OF THE GOVERNMENT IN FINANCIAL MARKETS

Because of the prominent role played by financial markets in economies, governments have long deemed it necessary to regulate certain aspects of these markets. In their regulatory capacities, governments have greatly influenced the development and evolution of financial markets and institutions. As stated in a March 31, 2008, speech by Henry M. Paulson, Jr., Secretary of the U.S. Department of the Treasury:²

A strong financial system is vitally important—not for Wall Street, not for bankers, but for working Americans. When our markets work, people throughout our economy benefit—Americans seeking to buy a car or buy a home, families borrowing to pay for college, innovators borrowing on the strength of a good idea for a new product or technology, and businesses financing investments that create new jobs. And when our financial system is under stress, millions of working Americans bear the consequences. Government has a responsibility to make sure our financial system is regulated effectively. And in this area, we can do a better job. In sum, the ultimate beneficiaries from improved financial regulation are America's workers, families and businesses—both large and small.

It is important to realize that governments, markets, and institutions tend to behave interactively and to affect one another's actions in certain ways. Thus, it is not surprising to find that a market's reactions to regulations often prompt a new response by the government, which can cause the institutions participating in a market to change their behavior further, and so on. A sense of how the government can affect a market and its participants is important to an understanding of the numerous markets and securities to be described in the chapters to come. For that reason, we briefly describe the regulatory function here.

Because of differences in culture and history, different countries regulate financial markets and financial institutions in varying ways, emphasizing some forms of regulation more than others. Here we will discuss the different types of regulation, the motivation for regulation, and the basic U.S. regulatory structure. At the time this book goes to press, there will have been proposals for a drastic overhaul of the U.S. regulatory system.

Justification for Regulation

The standard explanation or justification for governmental regulation of a market is that the market, left to itself, will not produce its particular goods or services in an efficient manner and at the lowest possible cost. Of course, efficiency and low-cost production are hallmarks of a perfectly competitive market. Thus, a market unable to produce efficiently must be one that is not competitive at the time, and that will not gain that status by itself in the foreseeable future. Of course, it is also possible that governments may regulate markets that are viewed as competitive currently but unable to sustain competition, and thus low-cost production, over the long run. A version of this justification for regulation is that the government controls a feature of the economy that the market mechanisms of competition and pricing could not manage without help. A shorthand expression economists use to

² It is in this speech that Secretary Paulson introduced what is known as the "Blueprint for Regulatory Reform" that we will describe shortly.

describe the reasons for regulation is **market failure**. A market is said to fail if it cannot, by itself, maintain all the requirements for a competitive situation.

Governments in most developed economies have created elaborate systems of regulation for financial markets, in part because the markets themselves are complex and in part because financial markets are so important to the general economies in which they operate. The numerous rules and regulations are designed to serve several purposes, which fall into the following categories:

1. to prevent issuers of securities from defrauding investors by concealing relevant information
2. to promote competition and fairness in the trading of financial securities
3. to promote the stability of financial institutions
4. to restrict the activities of foreign concerns in domestic markets and institutions
5. to control the level of economic activity

Corresponding to each of these categories is an important form of regulation. We discuss each form in turn.

Disclosure regulation is the form of regulation that requires issuers of securities to make public a large amount of financial information to actual and potential investors. The standard justification for disclosure rules is that the managers of the issuing firm have more information about the financial health and future of the firm than investors who own or are considering the purchase of the firm's securities. The cause of market failure here, if indeed it occurs, is commonly described as **asymmetric information**, which means investors and managers have uneven access to or uneven possession of information. This is referred to as the **agency problem**, in the sense that the firm's managers, who act as agents for investors, may act in their own interests to the disadvantage of the investors. The advocates of disclosure rules say that, in the absence of the rules, the investors' comparatively limited knowledge about the firm would allow the agents to engage in such practices.

Financial activity regulation consists of rules about traders of securities and trading on financial markets. A prime example of this form of regulation is the set of rules against trading by corporate insiders who are corporate officers and others in positions to know more about a firm's prospects than the general investing public. Insider trading is another problem posed by asymmetric information, which is of course inconsistent with a competitive market. A second example of this type of regulation would be rules regarding the structure and operations of exchanges where securities are traded so as to minimize the risk of defrauding the general investing public.

Regulation of financial institutions is the form of governmental monitoring that restricts these institutions' activities in the vital areas of lending, borrowing, and funding. The justification for this form of government regulation is that these financial firms have a special role to play in a modern economy. Financial institutions help households and firms to save; they also facilitate the complex payments among many elements of the economy; and in the case of commercial banks, they serve as conduits for the government's monetary policy. Thus, it is often argued that the failure of these financial institutions would disturb the economy in a severe way.

Regulation of foreign participants is the form of governmental activity that limits the roles foreign firms can have in domestic markets and their ownership or control of financial institutions.

Authorities use banking and monetary regulation to try to control changes in a country's money supply, which is thought to control the level of economic activity.

Later chapters will provide a detailed review of these types of governmental regulation of markets and financial institutions. We mention them here briefly in order to provide a comprehensive picture of the government's role in modern financial systems.

Regulation in the United States

The regulatory structure in the United States is largely the result of financial crises that have occurred at various times. Most regulations are the products of the stock market crash of 1929 and the Great Depression in the 1930s. Some of the regulations may make little economic sense in the current financial market, but they can be traced back to some abuse that legislators encountered, or thought they encountered, at one time. In fact, as noted by Secretary Paulson in his March 31, 2008, speech:

Our current regulatory structure was not built to address the modern financial system with its diversity of market participants, innovation, complexity of financial instruments, convergence of financial intermediaries and trading platforms, global integration and interconnectedness among financial institutions, investors and markets. Moreover, our financial services companies are becoming larger, more complex and more difficult to manage. Much of our current regulatory system was developed after the Great Depression and it has developed through reaction—a pattern of creating regulators as a response to market innovations or to market stress.

The current regulatory system in the United States is based on an array of industry- and market-focused regulators. Again, we will discuss the complex array of regulation when we describe the various financial institutions and financial markets. A proposal by the U.S. Department of the Treasury, popularly referred to as the “Blueprint for Regulatory Reform” or simply Blueprint, would replace the prevailing complex array of regulators with a regulatory system based on functions. More specifically, there would be three regulators: (1) a market stability regulator, (2) a prudential regulator, and (3) a business conduct regulator. The market stability regulator would take on the traditional role of the Federal Reserve by giving it the responsibility and authority to ensure overall financial market stability. The Federal Reserve, which we discuss in Chapter 4, would be responsible for monitoring risks across the financial system. The prudential regulator would be charged with safety and soundness of firms with federal guarantees that we will describe in this book such as federal depository insurance and housing guarantees. The business conduct regulator would regulate business conduct across all types of financial firms. This regulator would take on most of the roles that the Securities and Exchange Commission and the Commodity Futures Trading Commission now have.

This change in regulatory structure is the long-term recommendation of the Blueprint. This may not occur for 10 or 15 years, if at all. If history is our guide, major regulatory changes do take that long to become legislation. For example, in Chapter 3, we will describe the major regulatory reform as of this writing: the Gramm-Leach-Bliley Act 1999. According to one source, portions of that legislation were first recommended by a special commission of the Reagan administration in the early to mid 1980s.

Key Points That You Should Understand Before Proceeding

1. The standard explanation for governmental regulation of markets for goods and services.
2. What is being sought by regulation.
3. The major forms of regulation.
4. The "Blueprint for Regulatory Reform" proposed by the U.S. Department of the Treasury.

FINANCIAL INNOVATION**Categorizations of Financial Innovation**

Since the 1960s, there has been a surge in significant financial innovations. Observers of financial markets have categorized these innovations in different ways. Here are just three ways suggested to classify these innovations.

The Economic Council of Canada classifies financial innovations into the following three broad categories:³

- *market-broadening instruments*, which increase the liquidity of markets and the availability of funds by attracting new investors and offering new opportunities for borrowers
- *risk-management instruments*, which reallocate financial risks to those who are less averse to them, or who have offsetting exposure and thus are presumably better able to shoulder them
- *arbitraging instruments and processes*, which enable investors and borrowers to take advantage of differences in costs and returns between markets, and which reflect differences in the perception of risks, as well as in information, taxation, and regulations

Another classification system of financial innovations based on more specific functions has been suggested by the Bank for International Settlements: *price-risk-transferring innovations*, *credit-risk-transferring instruments*, *liquidity-generating innovations*, *credit-generating instruments*, and *equity-generating instruments*.⁴ Price-risk-transferring innovations are those that provide market participants with more efficient means for dealing with price or exchange-rate risk. Reallocating the risk of default is the function of credit-risk-transferring instruments. Liquidity-generating innovations do three things: (1) They increase the liquidity of the market, (2) they allow borrowers to draw upon new sources of funds, and (3) they allow market participants to circumvent capital constraints imposed by regulations. Instruments to increase the amount of debt funds available to borrowers and to increase the capital base of financial and nonfinancial institutions are the functions of credit-generating and equity-generating innovations, respectively.

Finally, Professor Stephen Ross suggests two classes of financial innovation: (1) new financial products (financial assets and derivative instruments) better suited to the circumstances of

³ *Globalization and Canada's Financial Markets* (Ottawa, Canada: Supply and Services Canada, 1989), p. 32.

⁴ Bank for International Settlements, *Recent Innovations in International Banking* (Basle: BIS, April 1986).

the time (for example, to inflation) and to the markets in which they trade, and (2) strategies that primarily use these financial products.⁵

One of the purposes of this book is to explain these financial innovations. For now, let's look at why financial innovation takes place.

Motivation for Financial Innovation

There are two extreme views of financial innovation.⁶ There are some who believe that the major impetus for innovation has been the endeavor to circumvent (or *arbitrage*) regulations and find loopholes in tax rules.⁷ At the other extreme, some hold that the essence of innovation is the introduction of financial instruments that are more efficient for redistributing risks among market participants.

It would appear that many of the innovations that have passed the test of time and have not disappeared have been innovations that provided more efficient mechanisms for redistributing risk. Other innovations may just represent a more efficient way of doing things. Indeed, if we consider the ultimate causes of financial innovation,⁸ the following emerge as the most important:

1. increased volatility of interest rates, inflation, equity prices, and exchange rates
2. advances in computer and telecommunication technologies
3. greater sophistication and educational training among professional market participants
4. financial intermediary competition
5. incentives to get around existing regulation and tax laws
6. changing global patterns of financial wealth

With increased volatility comes the need for certain market participants to protect themselves against unfavorable consequences. This means new or more efficient ways of risk sharing in the financial market are needed. Many of the financial products require the use of computers to create and monitor them. To implement trading strategies using these financial products also requires computers, as well as telecommunication and Internet networks. Without advances in computer and telecommunication technologies, some innovations would not have been possible. Although financial products and trading strategies created by some market participants may be too complex for other market participants to use, the level of market sophistication, particularly in terms of mathematical understanding, has risen, permitting the acceptance of some complex products and trading strategies.

As you read the chapters on the various sectors of the financial markets that we review in this book, be sure you understand the factors behind any innovations in that market.

⁵ Stephen A. Ross, "Institutional Markets, Financial Marketing, and Financial Innovation," *Journal of Finance* (July 1989), p. 541.

⁶ Ian Cooper, "Financial Innovations: New Market Instruments," *Oxford Review of Economic Policy* (November 1986).

⁷ Merton H. Miller, "Financial Innovation: The Last Twenty Years and the Next," *Journal of Financial and Quantitative Analysis* (December 1986), pp. 459–471.

⁸ Cooper, "Financial Innovations," see Table 9. We add inflation to the first category described.

Key Points That You Should Understand Before Proceeding

1. The extent of the innovation in many financial markets, securities, and institutions over the last few decades.
2. The causes of innovation, such as the high level of volatility in prices and interest rates, the arrival of technology, the new intensity of competition, and the globalization of markets and institutions.

SUMMARY

In this chapter, we have explained the role of financial assets and financial markets. A financial asset (or financial instrument or security) entitles the owner to future cash flows to be paid by the issuer as well as to the liquidation value of the asset. The claim can be either an equity or debt claim. The price of any financial asset is equal to the present value of the cash flow expected. Because of uncertainty about the cash flow, in nominal and inflation-adjusted dollars, there is risk in investing in financial assets.

The two principal economic functions of a financial asset are (1) transferring funds from those who have surplus funds to invest to those who need funds to invest in tangible assets, and (2) transferring funds in such a way that redistributes the unavoidable risk associated with the cash flow generated by tangible assets among those seeking and those providing the funds.

Financial markets provide the following three additional functions beyond that of financial assets themselves: (1) they provide a mechanism for determining the price (or, equivalently, the required return) of financial assets, (2) they make assets more liquid, and (3) they reduce the costs of exchanging assets. The costs associated with transacting are search costs and information costs.

There are various ways to classify financial markets: money (or short-term) versus capital markets, debt versus equity markets, primary versus secondary markets, and cash versus derivative markets. Another classification is based on the type of organizational structure: auction versus over-the-counter versus intermediated markets.

The increased integration of financial markets throughout the world can be attributed to three factors: (1) deregulation or liberalization of major financial markets (market deregulation and institutional deregulation), (2) advances in telecommunications and computer technologies, and (3) institutionalization of financial markets. Global financial markets can be classified as the national market of a country, consisting of the domestic market and foreign market, and the external market (overseas or Euromarket).

A derivative instrument is a contract whose value depends on the value of the underlying financial asset. The chief economic function of a derivative instrument is to provide ways to control risk. Derivative markets may offer three advantages over cash markets: (1) lower transaction costs, (2) faster speed at which transactions can be completed, and (3) greater liquidity.

Regulation of the financial system and its various component sectors occurs in almost all countries. A useful way to organize the many instances of regulation is to see it as having four general forms: (1) enforcing the disclosure of relevant information, (2) regulating the level of financial activity through control of the money supply as well as trading in financial

markets, (3) restricting the activities of financial institutions and their management of assets and liabilities, and (4) constraining the freedom of foreign investors and securities firms in domestic markets. The U.S. Department of the Treasury has proposed a major revamping of the regulatory system.

Financial innovation has increased dramatically since the 1960s, particularly in the late 1970s. While financial innovation can be the result of arbitrary regulations and tax rules, innovations that persist after regulations or tax rules have been changed to prevent exploitation are frequently those that have provided a more efficient means for redistributing risk.

KEY TERMS

- Agency problem, 13
- Arbitrage, 16
- Asset, 2
- Asymmetric information, 13
- Banking and monetary regulation, 14
- Call option, 10
- Capital market, 6
- Competitive market, 12
- Credit risk (default risk), 4
- Debt instrument, 3
- Derivative instrument, 10
- Disclosure regulation, 13
- Domestic market, 8
- Equity instrument (residual claim), 3
- External market (international market, offshore market, Euromarket), 9
- Financial activity regulation, 13
- Financial asset, 2
- Financial market, 2
- Fixed-income instrument, 3
- Foreign-exchange risk, 4
- Foreign market, 8
- Information costs, 6
- Internal market (national market), 8
- Market failure, 13
- Money market, 6
- Price discovery process, 6
- Purchasing power risk (inflation risk), 4
- Put option, 10
- Regulation of financial institutions, 13
- Regulation of foreign participants, 13
- Search costs, 6
- Secondary market, 6
- Spot market (cash market), 5
- Tangible asset, 2

QUESTIONS

1. What is the difference between a financial asset and a tangible asset?
2. What is the difference between the claim of a debtholder of General Motors and an equityholder of General Motors?
3. What is the basic principle in determining the price of a financial asset?
4. Why is it difficult to determine the cash flow of a financial asset?
5. Why are the characteristics of an issuer important in determining the price of a financial asset?
6. What are the two principal roles of financial assets?
7. In September 1990, a study by the U.S. Congress, Office of Technology Assessment, entitled "Electronic Bulls & Bears: U.S. Securities Markets and Information Technology," included this statement:

Securities markets have five basic functions in a capitalistic economy:
 - a. They make it possible for corporations and governmental units to raise capital.
 - b. They help to allocate capital toward productive uses.
 - c. They provide an opportunity for people to increase their savings by investing in them.

- d. They reveal investors' judgments about the potential earning capacity of corporations, thus giving guidance to corporate managers.
- e. They generate employment and income.

For each of the functions cited above, explain how financial markets (or securities markets, in the parlance of this Congressional study) perform each function.

8. Explain the difference between each of the following:
 - a. money market and capital market
 - b. primary market and secondary market
 - c. domestic market and foreign market
 - d. national market and Euromarket
9. Indicate whether each of the following instruments trades in the money market or the capital market:
 - a. General Motors Acceptance Corporation issues a financial instrument with four months to maturity.
 - b. The U.S. Treasury issues a security with 10 years to maturity.
 - c. Microsoft Corporation issues common stock.
 - d. The State of Alaska issues a financial instrument with eight months to maturity.
10. A U.S. investor who purchases the bonds issued by the government of France made the following comment: "Assuming that the French government does not default, I know what the cash flow of the bond will be." Explain why you agree or disagree with this statement.
11. A U.S. investor who purchases the bonds issued by the U.S. government made the following statement: "By buying this debt instrument I am not exposed to default risk or purchasing power risk." Explain why you agree or disagree with this statement.
12. In January 1992, Atlantic Richfield Corporation, a U.S.-based corporation, issued \$250 million of bonds in the United States. From the perspective of the U.S. financial market, indicate whether this issue is classified as being issued in the domestic market, the foreign market, or the offshore market.
13. In January 1992, the Korea Development Bank issued \$500 million of bonds in the United States. From the perspective of the U.S. financial market, indicate whether this issue is classified as being issued in the domestic market, the foreign market, or the offshore market.
14. Give three reasons for the trend toward greater integration of financial markets throughout the world.
15. What is meant by the "institutionalization" of capital markets?
16. a. What are the two basic types of derivative instruments?
b. "Derivative markets are nothing more than legalized gambling casinos and serve no economic function." Comment on this statement.
17. What is the economic rationale for the widespread use of disclosure regulation?
18. What is meant by market failure?
19. What is the major long-term regulatory reform that the U.S. Department of the Treasury has proposed?
20. Why does increased volatility in financial markets with respect to the price of financial assets, interest rates, and exchange rates foster financial innovation?